Risk-Specific Garbing Procedures for Non-Human Primate Facilities

University of Pittsburgh
Department of Environmental Health & Safety

Katy Board, Heather Peffer, Molly Stitt-Fischer, and Jay Frerotte
Garbing procedures for Non-Human Primate (NHP) Facilities prior to April 2011

• Driven by the highest risk procedure in NHP Facility
• Within one NHP behavioral area this included:
  o Liquid barrier coverall suit
  o Gloves
  o Multiple shoe covers
  o Surgical masks
  o Safety goggles or glasses
  o Hair bonnet
April 2011: Non-Human Primate Associated Injuries Among Behavioral Researchers
April 2011: Non-Human Primate Injuries

Non-Human Primate Injuries By Length of Employment

Percentage of all NHP Injuries

- 0-2 Years: 48%
- 2-5 Years
- Greater than 5 years

Length of Employment
Prior to April 2011

Garbing requirements driven by the highest risk procedure in the Non-Human Primate facility

Pros:
• Simplified training and compliance

Cons:
• Investigator perceived challenges (no flexibility to account for different facilities or types of procedures)
• Less opportunity to implement preferred Personal Protective Equipment (e.g. reusable lab coats vs. disposable)
• May contribute to reduced contact between mentors/supervisors and research staff

Most senior staff expressed the sentiment that there is no substitute for hands-on, supervised experience under a mentor.
Risk Assessment Relating to Garbing Procedures: Methods

- Comparison of procedure-specific risk assessment and minimum PPE required by outside programs.

- Comparison of outside programs to current procedures performed.

- Newly developed PPE recommendations.
Risk Assessment

• High Risk: Procedures that aerosolize NHP wastes/fluids or generate potentially contaminated fluids at either high velocity or high volume

  o Hosing down caging and restraint equipment
  o Work in animal holding rooms
  o Direct contact with unrestrained animals
  o Use of drills (dental or surgical)
Risk Assessment

• Moderate Risk: Any situation/procedure that requires working with a restrained NHP
  
  o Chairing a non-human primate  
  o Feeding or giving treats  
  o Minor procedures (phlebotomy, physical exam, etc.)  
  o Providing surgical assistance
Risk Assessment

- Low Risk: Any situation/activity in which a restrained NHP may pass briefly with no direct contact
  - Walking in facility hallways
  - Working in a separate room from non-human primates
  - Working in the same room but more than 5 feet away from restrained non-human primates
Risk Assessment and Corresponding Garb

**Low Risk**

Any situation/activity in which a restrained NHP may pass briefly with no direct contact

**For Example....**

- NHP Behavioral testing
- Data analysis in a separate room from non-human primate testing
Risk Assessment and Corresponding Garb

Moderate Risk

Situations/procedures working directly with NHPs restrained in a cage or NHP chair, or minor non-surgical procedures with anesthetized animals

For Example....

- Chairing
- Treat feeding
Corresponding Garb

High Risk

Procedures that aerosolize NHP wastes/fluids or generate potentially contaminated fluids at either high velocity or high volume

For Example....

Hosing down cages and restraint equipment
Observations: Positive Indicators

+ Animal handlers tended to wear more than minimum required Personal Protective Equipment (PPE)
+ PPE was readily available
+ Researchers and Animal Care Workers indicated a more frequent presence of senior staff
Observations: Areas for Improvement

- PPE choices were often dependent on the “personality” of the non-human primate being manipulated; NHP personality traits were not documented
- Certain types of PPE cause adverse NHP reactions
- Non-human primates dislodge face shields
- Conditions in non-human primate housing and testing rooms lead to unpredictably slippery floors
Recommendations based on Observations

• Bite-resistant gloves when working with lightly anesthetized animals
• A record keeping system to identify escalated risks and aggressive animals
• Slip-resistant shoe covers
• Size-appropriate PPE
• Safety goggles instead of face shields to minimize dislodging

http://wakefieldbrush.com/technician.php
Training Courses developed as a result of the information learned from this and other University NHP Safety initiatives:

1. Non-Human Primate User Safety Training
   • Required annually for all individuals who come in contact with non-human primates (PI, researcher, veterinarian, animal care)
   • Discussion-style training

2. Risk-Specific Garbing Training
   • Risk-assessment based
Non-Human Primate User Safety Training

Discussion style: “What’s Wrong With this Picture?”
Risk-Specific Garbing Training

• How to assess risk associated with tasks
  o Aerosols
  o Proximity to NHP
  o Contact with contaminated surfaces

• Connecting the level of risk with appropriate PPE
  o Low/Moderate/High

• A reminder to reassess risk
  o Anticipated tasks vs. tasks actually being performed
  o Additional risks associated with work
  o Unanticipated biological hazards

• Mnemonic C.L.E.A.R.
Risk-Specific Garbing Training

C onsider the work that will be performed

L evel of Risk

E quip yourself with the appropriate PPE

A ssess ongoing tasks inside the Animal Facility

R e-evaluate choice of personal protective equipment
Conclusions

• **Enhanced Communication**
  o Opened a dialog between animal care staff and EH&S
  o Safety tips are shared between facilities by EH&S

• **Enhanced Understanding**
  o Increased situational awareness
  o Increased ability to identify risk

• **Enhanced Satisfaction**
  o Increase in mentorship by senior staff
  o Perceived increase in senior staff presence within the animal facility

• **Enhanced Safety**
Conclusions: Enhanced Safety

* Two injuries in 2011 occurred prior to the implementation of the risk-specific garbing procedures in April
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Thank you for your time!